REMARKS/ARGUMENTS

Claims 1-25 are pending in this Application and stand rejected. Review and reconsideration on the merits are requested in view of the following discussion.

Claims 1, 3, 5-6, 9, 11-12 and 14 stand rejected as being anticipated by U.S. Patent No. 6,031,000 to Nissen, et al. Applicants respectfully submit that the disclosure in the Nissen document is insufficient to anticipate the claims in the present Application.

According to the Office Action, Nissen discloses administering Ca-HMB to increase aerobic capacity of muscle and submits that this somehow anticipates the invention defined in Claims 1 and 5. Furthermore, the Office Action indicates that patients with AIDS suffer from hypocalcemia and relies on the disclosure in Kuehn et al. to establish that this is well-known in the art. The Office Action then argues that elevating serum levels of calcium and/or magnesium is an inherent property and indicates that Nissen teaches checking blood samples after administration of the compound. Applicants submit that the office has failed to establish a *prima facie* case of anticipation because the cited reference fails to disclose each and every limitation of the claims.

Independent Claim 1 recites treating a subject having a deficiency in calcium and/or magnesium serum levels. Likewise, Claim 12 refers to providing a nutritionally supplemental amount of calcium and/or magnesium to a subject in need of a nutritionally supplemental amount of calcium and/or magnesium. These limitations are not disclosed or described in Nissen. Nissen fails to disclose or suggest administration of the composition to a subject having a deficiency in calcium and/or magnesium serum levels or to a subject in need of a nutritionally supplemental amount of calcium and/or magnesium. Accordingly, since these limitations are missing from the cited references, there can be no anticipation.

Furthermore, to the extent the Office is relying on principles of inherency to support the rejection under 102(b), Applicants respectfully disagree. "Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *MEHL/Biophile Int'l. Corp. v. Milgraum*, 192 F.3d 1362, 1365, 52 USPQ 2d 1303, 1305 (Fed. Cir. 1999) (*quoting In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)). Reliance on inherency requires a showing that the "allegedly inherent

characteristic <u>necessarily</u> flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ 2nd 1461, 1464 (Bd. Pat. App. & Inter. 1990) (Emphasis in original).

Nissen discloses a method for treatment of disease—associated wasting that in some cases is associated with AIDS. The article relied on by the Office for the conclusion that hypocalcemia is associated with AIDS only identified hypocalcemia as being present 6.5% of the time in the HIV group. Moreover, there is research indicating that hypocalcemia is not a symptom associated with AIDS, per se, but rather is an undesirable side effect of certain anti-viral drugs used to treat AIDS. Regardless, Nissen's disclosure of treating disease—associated wasting from AIDS is insufficient to anticipate or render obvious the claims of the present application directed to treating a subject having a deficiency in calcium and/or magnesium serum levels. While it may be possible that a patient having AIDS may also have hypocalcemia, this is exactly the kind of probability or possibility that is insufficient to establish that this limitation is inherently present.

The Office appears to give some weight to the fact that Nissen discloses having blood samples taken after the patient has been given the claimed compound and refers to Col. 10, lines 1-4 of Nissen for support. However, the cited passage only describes measuring blood HMB levels and makes no mention of measuring calcium and/or magnesium levels at all. This is consistent with the overall emphasis and teaching of Nissen that it is only the HMB levels that are critical; the levels of calcium are not even important enough to measure. Applicants respectfully submit that the Office has failed to show that the natural result flowing from Nissen's method for the treatment of disease—associated wasting of an animal is the treatment of a subject having a deficiency in calcium and/or magnesium serum levels. Therefore, Applicants respectfully request that the rejection be withdrawn.

Claims 1, 5-6 and 9 stand rejected as being anticipated by the Vukovich article. According to the Office Action, Vukovich discloses administration of an effective amount of calcium 3-hydroxy-3-methylbutyrate to treat loss of muscle mass and concludes that loss of muscle mass is a calcium deficiency as disclosed in current Claim 1. Application respectfully submit that Vukovich fails to disclose or suggest the invention as set forth in Claims 1, 5-6 and 9. As set forth in the Office Action, Vukovich "teaches administration of Ca-HMB to young adults to increase gains in strength associated with loss of muscle mass" but provides absolutely no

teaching with respect to the use of these compositions to treat subjects having a deficiency in calcium and/or magnesium serum levels. Again, the Office seems to place some importance on the fact that Vukovich discloses collection of blood samples and the determination of plasma levels of Ca-HMB. Applicants fail to see the relevance of this especially considering the fact that Vukovich only describes processing and analyzing samples for plasma HMB levels and there is no indication that the blood was analyzed for levels of calcium. Applicants fail to see the connection between Vukovich's method for treating loss of muscle mass and the method set forth in Claim 1 of the pending Application which recites treating a subject having a deficiency in calcium and/or magnesium serum levels. Furthermore, to the extent the Office is taking the position that this limitation is somehow inherently present in Vukovich, Applicants respectfully disagree. In fact, the Office has failed to even identify how this limitation is somehow inherently met by Vukovich. Therefore, for at least this reason, as well, Applicants respectfully request that the rejection be withdrawn.

Claims 1, 5-6, 7-9 and 12 stand rejected as being anticipated by WO94/17678. According to the Office Action, the '678 publication discloses administering 3-hydroxyl-3-methylbutyrate to pregnant women and concludes that this meets the limitations relating to treating a patient having a deficiency in calcium and/or magnesium serum levels or providing a nutritionally supplemental amount of calcium and/or magnesium to a subject in need thereof "because bone loss occurs during pregnancy and during lactation" thereby anticipating "a condition associated with calcium and/or magnesium." Independent Claims 1 and 12 no longer refer to a condition associated with calcium and/or magnesium but instead refer to treating a subject having a deficiency in calcium and/or magnesium serum levels or to a subject in need of a nutritionally supplemental amount of calcium and/or magnesium, respectively. This rejection doesn't appear to address current claims 1 and 12 after insertion of this language. Again, to the extent the Office is taking the position that these limitations are somehow inherently met, Applicants respectfully disagree. A disclosure in the '678 publication relating to the administration of a compound to pregnant mammals is insufficient to anticipate or render obvious the claims of the present Application. Therefore, Applicants respectfully request that the rejection be withdrawn.

Claims 1-25 stand rejected as being obvious over Nissen et al. taken with Vukovich et al. and the '678 publication further in view of www.naturalconnections.com (1998). The Office Action indicates that it would have been obvious to combine these references "because the cited art teach a method of treating calcium and/or magnesium deficiencies for the same reasons given above." However, Applicants respectfully submit that the Office has failed to establish a *prima facie* case of obviousness with respect to these claims.

Factors to be evaluated in determining obviousness include “the scope and content of the prior art…differences between the prior art and claims at issue…and the level of ordinary skill in the pertinent art.” *Graham v. John Deere Co.*, 383 U.S. 1 (1966). “A combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int’l. v. Teleflex Inc.*, 127 S. Ct. 1727, 1731 (2007). However, “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *Id.* at 1741. A finding of obviousness must be based on more than “mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* at 741 *quoting In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). All claim limitations must be identified in the cited references to establish a *prima facie* case of obviousness. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006). A *prima facie* case of obviousness can be rebutted by a showing of unexpected results. *Kao Corp. v. Unilever U.S., Inc.,* 441 F.3d 963, 970 (Fed. Cir. 2006).

Applicants respectfully submit that the Office has failed to provide an articulated reason supporting the combination of the cited references. Nissen and the '678 publication are only concerned with administering HMB and the salt is simply included as a means for providing the HMB in a form that can be easily administered. Nissen completely disregarded the calcium and/or magnesium serum levels as indicated by the complete lack of testing for these minerals.

The Natural Connections website discloses magnesium and calcium compositions and describes various salts that can be used, but there is no indication or suggestion of using a mineral supplement containing calcium HMB and/or magnesium HMB. The Office has merely set forth a conclusory statement which fails to adequately address the issue of motivation to combine these references to arrive at the present invention. Applicants respectfully submit that the purported motivation is insufficient to suggest modifying these references to arrive at the present invention. Accordingly, the Office has failed to articulate "reasoning with some rational underpinning to support the legal conclusion of obviousness." Therefore, Applicants submit that the Office has failed to establish a *prima facie* case of obviousness for at least this reason and request that the rejection under 35 U.S.C. §103(b) withdrawn.

Even assuming for the sake of argument that the Office has established a *prima facie* case of obviousness, the present invention provides unexpected benefits that rebut obviousness in this case. As described in the specification, Ca-HMB exhibits a significant increase in elemental calcium compared to other calcium salts used in typical supplements. The same holds true for Mg-HMB when compared to commercial magnesium supplements. The present invention satisfies a long-felt but unmet need in the art for a supplement containing calcium and/or magnesium salts of increased viability. Therefore, Applicants respectfully request that the rejection be withdrawn.

Claims also stand rejected based on double patenting over U.S. Patent No. 10/667283. Applicants will attend to the double patenting rejection when one of these two applications issues as a patent.

In view of the foregoing, it is respectfully submitted that claims currently pending are distinguishable from the references cited and are in condition for allowance. Reconsideration of the rejections of record is respectfully requested. The Commissioner is authorized to charge any additional fees required or to credit any overpayment to Deposit Account No. 20-0809. If the examiner wishes to discuss any aspect of this response, please contact the undersigned at the telephone number indicated below.

Respectfully submitted,

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